

Bay Area Air Quality Management District

**939 Ellis Street
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**Proposed Amendments to
BAAQMD Regulation 8, Rule 43:
Surface Coating of Marine Vessels**

Staff Report

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STAFF REPORT

REGULATION 8, RULE 43

SURFACE COATING OF MARINE VESSELS

EXECUTIVE SUMMARY

The proposed amendment to Regulation 8, Rule 43 makes one minor change in the rule by adding an exemption for the use of certain coatings required to maintain the collection of historic vessels of the San Francisco Maritime National Historical Park. The exemption would allow the use of up to 55 gallons per year of coatings that do not comply with the VOC limits in the rule. The coatings are required to ensure compatibility with existing coatings on the vessels and because of the special nature of the painting work being done. Outdated VOC limits and applicability dates are also deleted to make the rule easier to read.

BACKGROUND

Regulation 8, Rule 43 was adopted in 1988 to reduce volatile organic compound (VOC) emissions from the coating of marine vessels. VOCs and nitrogen oxides react in the atmosphere in the presence of sunlight to form ozone, or smog.

Regulation 8, Rule 43 establishes VOC limits for vessel coatings. The general limits are 340 grams of VOC per liter of coating for air-dried coatings and 275 grams per liter for baked coatings. The rule also includes VOC limits for a number of specialty coatings. In lieu of complying with these VOC limits, a coating user may apply any coating, regardless of VOC content, if an afterburner or other abatement technology captures and reduces VOC emissions to a level equivalent to that produced by a complying coating. However, almost all coating users comply with the rule by using coatings that meet the (VOC) limits in the rule.

PROPOSED AMENDMENTS TO RULE

The proposed amendment to Regulation 8, Rule 43 would exempt from the rule's otherwise applicable VOC limits the brush or roller application of up to 55 gallons per year of coatings to historic vessels by a museum or park.

The only facility expected to be affected by this proposed exemption is the San Francisco Maritime National Historical Park, a unit of the National Park Service. The Park is

located in San Francisco at the West end of Fisherman's Wharf and is the home of the world's largest collection of historic ships by tonnage, including the 1886 square-rigger *Balclutha*, the three-masted 1895 schooner *C.A. Thayer*, the 1891 scow schooner *Alma*, and the 1890 ferryboat *Eureka*. The Park also preserves, restores and interprets an extensive collection of maritime artifacts, photographs, and documents.

In October, 1995, the Park petitioned the BAAQMD Hearing Board, pursuant to the provisions of the California Health and Safety Code, Section 42365 *et seq.*, for a variance allowing the use of coatings that do not comply with the Rule 43 limits. The Park was granted this variance and has sought and been granted a similar variance each year since 1995.

The higher VOC coatings for which variances have been granted are used primarily on the rigging of the *Balclutha*, which is maintained by Park personnel who climb into the rigging and apply coatings by hand. This manner of application is slow and painstaking, requiring Park personnel to work with a brush in one hand while gripping the rigging with the other hand. The Park has found that the only coatings which are compatible with *Balclutha's* existing coatings and have sufficient drying times for workers to maintain a wet edge are certain solvent-based alkyds. Alkyds are commonly used coatings based on a type of polyester polymer developed in the 1920's. They have long been the most commonly used coatings for many industrial maintenance activities. They have an advantage over many other coatings in bonding well to surfaces that have not received extensive preparation for recoating.

The coatings that the Park has found suitable for maintaining the *Balclutha* have a VOC content of 401 grams per liter. The applicable VOC limit in the rule is 340 grams per liter. Although alkyds that meet this limit and are compatible with existing coatings are available, the Park has found that they have drying times that are too rapid. These coatings have achieved VOC reductions by reducing the amount of solvent in the coating. The result is that the lower VOC coatings are too viscous for hand application and must be applied with spray equipment. This manner of application cannot be used, both because of the difficulty in using spray equipment at heights in the rigging and because of the potential for overspray to affect nearby tourist areas.

The BAAQMD Hearing Board has repeatedly found that there are no suitable alternatives to use of the higher VOC coatings. District staff have reviewed the Hearing Board findings and conducted a review of available coatings and have been unable to find suitable alternatives to the coatings the Park has been using under variances since 1995.

In addition to this substantive change to the regulation, obsolete VOC limits and applicability dates are deleted to make the rule easier to read. These changes have no substantive effect.

EMISSIONS AND EMISSION REDUCTIONS

Emission Inventory

When Regulation 8, Rule 43 was adopted in 1988, VOC emissions from marine vessel coating in the Bay Area were estimated to be 2 tons per day. Emission reductions attributable to the rule were estimated to be 0.6 tons per day. Virtually all emission reductions expected from this rule have already occurred. The current inventory shows 2000 controlled emissions to be 1.0 ton per day. Some emission reductions are attributable to the closure of a number of ship repair facilities since 1988 rather than to the rule.

Emission Impact of the Proposed Amendment

The VOC emissions impacts of the proposed exemption are minor. The exemption would allow the use of 55 gallons of coatings that do not comply with the 340 g/l limit of the rule. The coatings to be used have a VOC content of 401 g/l. The difference in VOC content is 0.51 pounds per gallon. The proposed exemption therefore has the potential to increase emissions by 28 pounds over the course of the painting season. For the painting season in San Francisco runs from April through October. Averaged over this season (assuming 22 working days per month), the potential emissions increase is 0.18 pounds per day.

This potential increase is largely theoretical, since the Park has been applying these coatings for the last five years under variances granted by the Hearing Board. As a practical matter, then, there is no real increase in emissions from the amendments.

ECONOMIC IMPACTS

Socioeconomic Impacts

The socioeconomic impact of this amendment is expected to be beneficial. The amendment, in effect, makes the rule less stringent for one particular, and unusual application. As a result, the changes cannot be said to “significantly affect air quality or emission limitations,” and the District has therefore not prepared the socioeconomic analysis that would otherwise be required under Section 40728.5 of the Health and Safety Code.

Incremental Costs

Under Health and Safety Code Section 40920.6, the District is required to perform an incremental cost analysis for a proposed rule under certain circumstances. To perform this analysis, the District must (1) identify one or more control options achieving the emission reduction objectives for the proposed rule, (2) determine the cost effectiveness for each option, and (3) calculate the incremental cost effectiveness for each option. To determine incremental costs, the District must “calculate the difference in the dollar costs divided by the difference in the emission reduction potentials between each progressively more stringent potential control option as compared to the next less expensive control option.” Because these amendments are not expected to increase costs, no incremental cost analysis has been prepared.

ENVIRONMENTAL IMPACTS

Pursuant to the California Environmental Quality Act, the District prepared an initial study for the proposed amendments to Regulation 8, Rule 43. The initial study concluded that there would be no significant environmental impacts from the proposed amendment. Notice was given of the District’s intent to adopt a negative declaration for the amendments. Written comments on the proposed negative declaration are due by April 9, 2001.

REGULATORY IMPACTS

Section 40727.2 of the Health and Safety Code requires an air district, in adopting, amending, or repealing an air district regulation, to identify existing federal and district air pollution control requirements for the equipment or source type affected by the proposed change in district rules. The district must then note any differences between these existing requirements and the requirements imposed by the proposed change. Where the district proposal does not impose a new standard, make an existing standard more stringent, or impose new or more stringent administrative requirements, the district may simply note this fact and avoid the analysis otherwise required by the bill. To comply with Health and Safety Code Section 40727.2, the District simply notes that no other federal or District standards apply to these sources.

RULE DEVELOPMENT HISTORY

On January 5, 2001, a request for comments on the proposed amendment was mailed to interested parties on the Regulation 8, Rule 43 mailing list. The list includes Bay Area shipbuilding and repair facilities, coating manufacturers, and coating distributors. One note thanking the District for helping to preserve the nation’s heritage was received. No

other comments were received. The District has carefully consulted with the Park to ensure that the proposal meets their needs.

CONCLUSION

Pursuant to Section 40727 of the California Health and Safety Code, regulatory amendments must meet findings of necessity, authority, clarity, consistency, non-duplication, and reference. The proposed amendments are:

- Necessary to limit emissions of volatile organic compounds, a primary precursor to urban ozone formation;
- Authorized by Sections 40000, 40001, 40702, and 40725 through 40728 of the California Health and Safety Code;
- Written or displayed so that meaning of the amendments can be easily understood by the persons directly affected by them;
- Consistent with other District rules, and not in conflict with state or federal law;
- Non-duplicative of other statutes, rules, or regulations; and
- Are implementing, interpreting, or making specific the provisions of California Health and Safety Code Sections 40000 and 40702.